

### 3.3 – Refraction Worksheet

1. What is the speed of light in flint glass?
2. What is the speed of light in quartz?
3. The speed of light in an unknown substance is  $2.56 \times 10^8$  m/s. What is the index of refraction of this substance?
4. The speed of light is measured at  $2.19 \times 10^8$  m/s. What substance is the light travelling in?
5. On a distant planet an alien records that light travels 4.6 km in  $2.5 \times 10^{-5}$  s. What substance is the alien atmosphere made out of?
6. What is the distance, in m, of a light year in diamond? Which is greater, a light year in a vacuum or a light year in a diamond? How many times greater is this value?
7. How long would it take for light to travel through a 5.00 mm zircon?